Net Ionic Equation Writing in 2014 and beyond – answers to examples

A: $3Ca^{2+} + 2PO_4^{3-} \rightarrow Ca_3(PO_4)_2$

A: Sodium and chloride ions

A: $H^+ + OH^- \rightarrow H_2O$

A: $LiBr_{(aq)}$, neutralization

A: $H_2S + 2Ag^+ \rightarrow 2H^+ + Ag_2S$

A: Less than 7 since one of the products is H^+, an acid

A: $Mg + 2Fe^{3+} \rightarrow 2Fe^{2+} + Mg^{2+}$

A: Yellow/Brown → Pale green as $Fe^{3+}_{(aq)}$ is converted to $Fe^{2+}_{(aq)}$

A: $SO_3 + H_2O \rightarrow H^+ + HSO_4^-$

A: Sulfur dioxide

A: $MgCO_3 \rightarrow MgO + CO_2$

A: Carbon dioxide will turn a solution of limewater "milky"

A: $2MnO_4^- + 10Br^- + 16H^+ \rightarrow 5Br_2 + 2Mn^{2+} + 8H_2O$

A: 7+ before → 2+ after

A: $Cr_2O_7^{2-} + 3Sn^{2+} + 14H^+ \rightarrow 3Sn^{4+} + 2Cr^{3+} + 7H_2O$

A: Tin(II) ions are losing electrons and become tin(IV)

A: $4H^+ + 2Cl^- + MnO_2 \rightarrow Mn^{2+} + Cl_2 + 2H_2O$

A: Chloride ions. They lose electrons and are oxidized in the process

A: $LiH + H_2O \rightarrow Li^+ + OH^- + H_2$

A: Hydrogen gas will give a "squeaky pop" with a lighted splint

A: $PBr_3 + 3H_2O \rightarrow 3H^+ + 3Br^- + H_3PO_3$

A: Trigonal pyramidal (3BP, 1LP)

A: $HCl + H_2O \rightarrow H_3O^+ + Cl^-$

A: HCl and Cl^- or H_3O^+ and H_2O

A: $[Fe(H_2O)_6]^{3+} + SCN^- \rightarrow [Fe(SCN)(H_2O)_5]^{2+} + H_2O$

A: Dative bond

A: $4H^+ + [Cd(NH_3)_4]^{2+} \rightarrow Cd^{2+} + 4NH_4^+$

A: N has 4 bonding pairs around it in NH_4^+ so it is sp^3 hybridized

A: $Al(OH)_3 + OH^- \rightarrow [Al(OH)_4]^-$

A: It would cause the reaction to shift to the reactants side and to precipitate more solid

A: $CH_4 + 4Br_2 \rightarrow CBr_4 + 4HBr$

A: A substitution. H atoms are replaced by Br atoms

A: $2CH_3CH_2CH_2OH + 9O_2 \rightarrow 6CO_2 + 8H_2O$

A: 12

A: $CH_3NH_2 + H^+ \rightarrow CH_3NH_3^+$

A: Acid/Base